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ABSTRACT

An overview is provided of the 1989 accomplishments of the Portland Area Vocational Technical Education Consortium (PAVTEC), which was created to strengthen partnerships between Portland Community College (PCC) and local high schools to provide high quality articulated vocational-technical programs. The first section looks at the roles of PAVTEC, local school districts, PCC, and the State Department of Education in efforts to prepare a regional workforce for the year 2000. Financial highlights are discussed next, including PAVTEC's use of federal and local resources and funding from the new Oregon Workforce 2000 Act. This section also includes a five-year revenue profile, and graphs showing PAVTEC's yearly expenditures from 1986 to 1989, its budgets for 1989-90 and 1990-91, and 1990-91 Workforce 2000 funding. The next section looks at PAVTEC's accomplishments during 1989-90, focusing on the following areas: (1) program management and organization; (2) the work of a Special Needs Task Force to meet the needs of the disabled and disadvantaged; (3) a 2+2+2 Tech Prep Model Program in Electronic Engineering Technology, which links PCC's associate degree program to a high school electronics cluster and the Oregon Institute of Technology's upper-division programs; (4) the accomplishments of committees and subcommittees on demonstration projects, program continuance/improvement, staff development, forecasting and advising, marketing and communications, and new avenues for articulation and partnerships, and of the PAVTEC steering committee; (5) results of an impact evaluation of regional cooperative vocational technical education and 2+2 programs; (6) data on student and school district participation; (7) updates to PAVTEC's three-year plan; and (8) the expansion of the Assistantship internship program for vocational-technical teachers and counselors. Following a summary of PAVTEC's first four years, the report suggests future directions in the areas of technology, trade, hospitality, and health education; meeting the education and training needs of employers; and local-state-federal partnerships to ensure funding. Members of PAVTEC's Representative Council are listed. (JMC)

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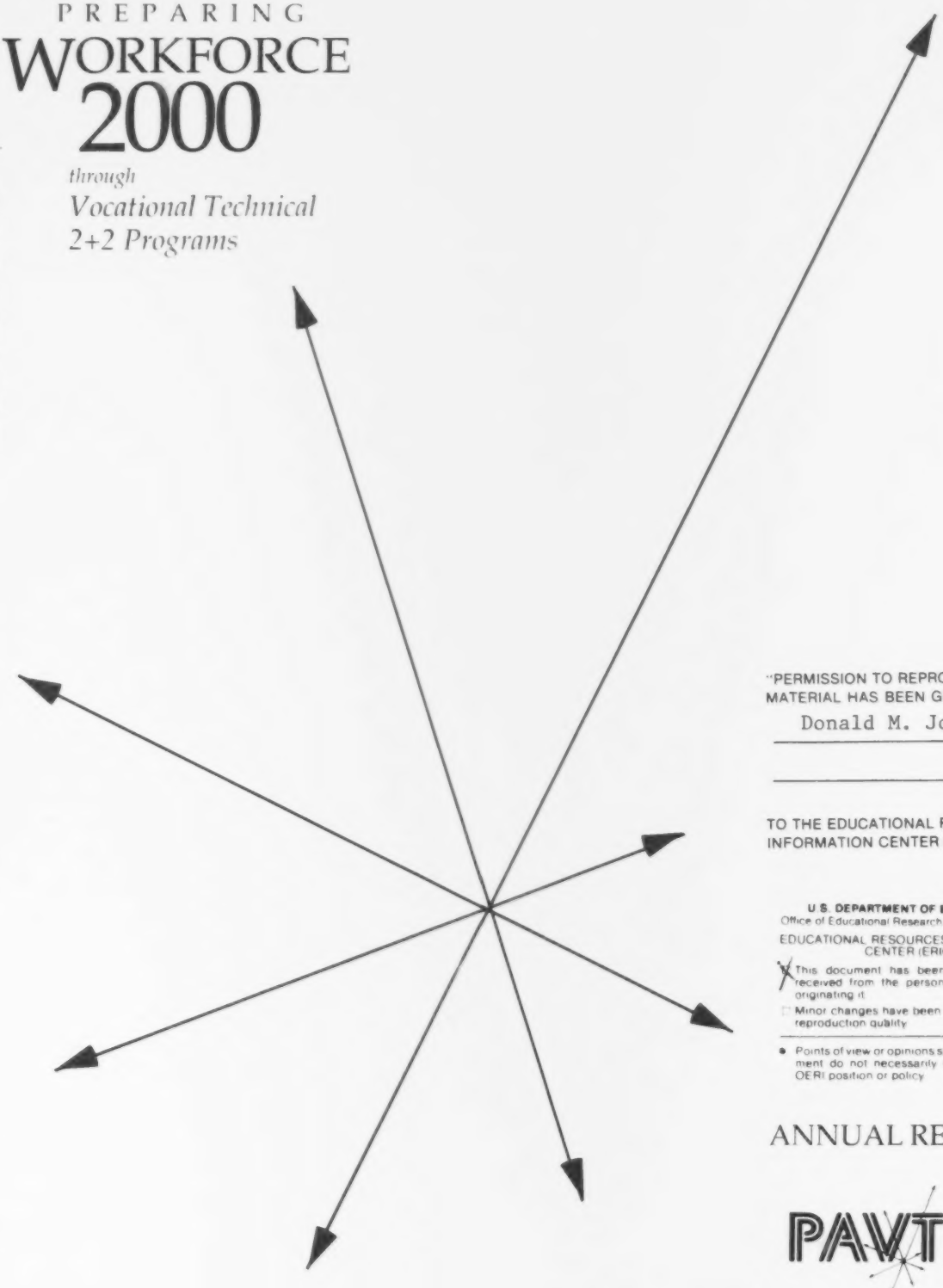
PREPARING

WORKFORCE 2000

through

Vocational Technical 2+2 Programs



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ANNUAL REPORT
1990

PAVTEC

Portland Area Vocational
Technical Education
Consortium

JC 900 240

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Portland Area Vocational Technical Education Consortium

Region IX - Oregon Regional Cooperative Vocational Technical Program

District Members

Portland Community College	Dr. Daniel Moriarty, President
Banks School District	Mr. Will Duke, Superintendent
Beaverton School District	Dr. Jim Hager, Superintendent
Forest Grove School District	Mr. Gary Lucas, Superintendent
Gaston School District	Mr. Fred Loomis, Superintendent
Hillsboro School District	Mr. Jim Tacchini, Superintendent
Lake Oswego School District	Dr. William Korach, Superintendent
Newberg School District	Mr. Wes Smith, Superintendent
Portland Public Schools	Dr. Matthew Prophet, Superintendent
St. Helens School District	Mr. Zan Freeburn, Superintendent
Scappoose School District	Mr. Jack Blair, Superintendent
Sherwood School District	Dr. Bill Hill, Superintendent
Tigard School District	Dr. Russell Joki, Superintendent
Vernonia School District	Mr. Ellis Mason, Superintendent
Columbia County ESD	Mr. Bud Lippold, Superintendent
Washington County ESD	Dr. Lee Christiansen, Superintendent

Associate Members

Northwest Regional Educational Laboratory
Oregon Department of Education Division of Vocational Education
Oregon Alliance for Program Improvement
The Private Industry Council
Associated General Contractors (AGC)
International Business Machines (IBM)
Oregon Bureau of Labor and Industries
Regional Coordinators of Vocational Technical Education
State Advisory Council/Career Vocational Education
Oregon Institute of Technology

Special Assistance

Business Education Compact of Washington County
Workforce 2000 Committee

Message to the President and Superintendents

The fourth annual report of the Portland Area Vocational Technical Education Consortium, (PAVTEC), is presented at an exciting time. The Workforce 2000 bill, passed by the 1989 Oregon Legislature, has provided additional funding for program improvement and 2 + 2 efforts which will help us further extend PAVTEC successes and promise.

PAVTEC's fourth year was significant for several reasons:

- Added articulation agreements in 8 fields and two additional school districts.
- Completes a three-year strategic planning cycle and sets the stage for an extended strategic plan that incorporates the Regional Cooperative Vocational Technical (RCVT) effort of the past four years with the upcoming Workforce 2000 Program.
- Represents the culmination of four years of contacting, communicating, and cooperating among thirteen school districts and PCC that have produced the attitudes and capacity to engage in the Workforce 2000 effort.
- Demonstrates the values of participation of a diverse array of groups, organizations and individuals—schools, community college, university, business, industry, labor, economic development, apprenticeship, advisory bodies, legislators, government—in a common and mutually rewarding enterprise.

The report is both a summary of past accomplishments and a forecast of those yet to be achieved. Benefits to students, teachers, administrators, and other participants are documented by an indepth evaluation conducted in May, 1989. The charts, tables, graphs, and narrative highlights which follow provide further evidence of accumulated and progressive change.

From the beginning, the prospects for effective regional cooperation appeared good. After four years, PAVTEC can move into the final decade of the 20th Century secure in the knowledge that what was prospect is now fact, and that 10 years from now, when Workforce 2000 is a reality, we will have prepared its workers well.

Donald M. Johnson, Chair
Portland Area Vocational-Technical
Education Consortium (PAVTEC)

Mission Statement

The mission of PAVTEC is to enhance and strengthen the working partnerships between Portland Community College and the high schools within the college district (Region IX) in order to provide the highest quality articulated vocational technical programs to citizens in the Portland area.

Preparing Workforce 2000

The preparation of a regional workforce for the year 2000 will test the capabilities of all of the region's education and training providers. It is estimated that the workforce will total 250,000 persons in Washington County alone by 2000. One in three of these workers will require further education, training, or r training every year, based on current estimates. For today's high schools and community colleges the challenge is complex. Schools must prepare first-time workers with a broad range of personal, basic, employability and job skills. Colleges must both prepare entry level workers and provide access to retraining, upgrading and new skills development programs. Universities must provide extended and continuing learning opportunities for an increasingly older and more demanding non-traditional population of students. Companies will develop and provide in-house training and education when they can not get it from educational organizations. The capacities of labor, apprenticeship, JTPA, and other public and private training providers will also be tested by the growing demand for education and training of an ever-changing, growing and diverse workforce.

PAVTEC: A Regional Consortium Responds

PAVTEC already has accepted a major role for PREPARING WORKFORCE 2000 through its commitment to regional cooperative vocational technical programs and its emphasis on articulated and 2+2 programs. More than four years of experience in developing high-quality, connected, articulated programs throughout the region has provided a strong foundation for responding to the demands of the Oregon Legislature's "Workforce 2000 Act of 1989."

The response of this largest of Oregon's Regional Cooperative Vocational Technical consortia has resulted in a major grant from Workforce 2000 Act funds which will be used to build upon and expand the Consortium's successful work of the past four years. In responding to this opportunity, PAVTEC and its members: created closer ties with the economic development efforts of the region; brought more private sector partners to the table; extended the reach of the Consortium to groups and organizations not previously interested or involved; and strengthened the already close working relationships between Portland Community College and the region's high schools. Workforce 2000 Act funds will provide new capacity in the districts and at the college so that each can contribute to the preparation of Workforce 2000 in new, productive ways. With new equipment, modern teaching supplies and materials, new or improved curriculum, and teachers with new technical and teaching skills, the region's students will have an edge in the workplace of the year 2000. And more of them will stay in school, finish diploma, certificate and associate degree programs, and be ready to go to work with the full expectation that they will shortly be engaged in additional education and training in order to keep pace with the changing technology of their new job.

Local School Districts

The region's high schools have set the tone for Preparing Workforce 2000 by establishing instructional program priorities that respond to the demands of the workplace. Motivated by the past successes of the PAVTEC enterprise, guided by trend data on the job market of the future, and encouraged by the prospect of new resources to strengthen their capacity to deliver, the high schools agreed to emphasize instruction in five priority areas: manufacturing technology; hospitality, tourism and recreation; health care; construction technology; and trade and marketing. Coupled with these priorities is the willingness to change curriculum and teaching approaches, secure needed new equipment, and cooperate with other high schools and the community college to capitalize on both the successes of the past and the opportunities provided by new resources.

The Community College

Portland Community College has continued to provide leadership for the effective collaboration that is represented by PAVTEC. The strong, working connections necessary for effective articulation and 2+2 programs result in large part from the willingness of the college to respond to needs and priorities of the high schools. The college has also continued to provide the administrative and management leadership for PAVTEC, and serves as the consortium's fiscal agent. With the additional impetus provided by the Workforce 2000 grant, the college can continue both to respond to local district and other regional education and training needs and provide the leadership for collaboration for which PAVTEC is known.

The State Department of Education

Under leadership of the Division of Vocational Technical Education, the regional cooperative vocational technical (RCVT) education concept has now been established in 18 regions across the state. Each year since 1986-87, almost $500,000 of Oregon's allocation of Federal Carl Perkins Act funds have been provided to support this statewide effort. Most of the success of the RCVT effort can be attributed to strong state and local leadership and the investment of Federal and local dollars. That Federal/local investment, and the strong connected programs that have resulted, provided impetus for the Workforce 2000 legislation. The funds made available under the Oregon Legislature's Workforce 2000 Act of 1989 will capitalize on the investments of the preceding four years as the state of Oregon joins the local and federal entities as full financial partners.

The National Scene

Vocational and technical education continues to be an important topic on the national agenda. The U.S. Congress, the American Vocational Association, the American Association of Community and Junior Colleges, and other influential groups and organizations have regularly renewed their commitment to Federal participation in vocational technical education programs. In 1990, the U.S. Congress is expected to act on S. 1109 which would provide continued federal dollars of nearly a billion dollars (or more) annually by reauthorizing the Carl Perkins act. Funding for connected, 2+2 technology preparation pro-

grams is a key element of this legislation. PAVTEC will proceed with implementing its strategic plan for 1990-91 with the expectation that these resources will be forthcoming.

PAVTEC continues to receive national recognition and requests for information from across the nation. Since December, 1989 alone, nine states (Kansas, Illinois, New Mexico, California, Washington, Wisconsin, Texas, Nevada and Iowa) have requested information about the PAVTEC Consortium ranging from needs for program information and articulation agreements to the legal documents needed to establish a consortium. PAVTEC members traveled to Delgado Community College in New Orleans in May 1989 as a consultant team to work with that institution in establishing a consortium with high schools. Later this spring a similar consultant team has been requested by the Seattle Community College district. The Special Needs Task Force chair made several trips to other districts and states to share the PAVTEC Special Needs message and provide expert consultation. Invited presentations at national conferences will be made in 1990 and 1991, and PAVTEC will continue to receive visitors from other states and districts and to respond to requests for information, ideas, and the experiences of PAVTEC that are working.

Financial Highlights

Federal Resources

The Regional Cooperative Vocational Technical (RCVT) program initiated by the Division of Vocational Technical Education, Oregon Department of Education in 1985 provided the impetus to form PAVTEC that same year. Since that time, more than $575,000 of Federal Carl Perkins funds have been utilized throughout the PAVTEC region to develop articulated and 2+2 instructional programs, train teachers, prepare new curriculum, and establish new instructional programs. Nearly one-half of that total has been used to improve instruction, modify programs and provide scholarships and other support for students who are disadvantaged or handicapped. It is anticipated that this resource will continue at least through the 1991-92 school year, depending on reauthorization of the Perkins Act, currently pending, bringing the six-year total of Federal dollars invested in the PAVTEC enterprise to over $745,000. The continuation of this resource through 1992 will help PAVTEC maintain its leadership edge in affecting positive change in educational programs and continue its commitment to quality, service and access.

Local Resources

Local districts and Portland Community College continue to support activities initiated under the PAVTEC plan through matching funds, provision of valued people time, and access to other material resources needed to plan and implement programs. Many districts use part of all of their Federal vocational education funds allocated by the Department of Education to support activities initiated by PAVTEC projects. These funds are provided to the state from the Federal Carl Perkins Vocational Education Act.

In some districts, State School Improvement grant resources (known as "20 20" funds) are utilized to enhance local efforts to articulate vocational instruction with post-secondary programs.

Workforce 2000 Funding

PAVTEC successfully applied for funding under the new Oregon Workforce 2000 Act, passed by the Oregon Legislature in 1989. Eleven of PAVTEC's thirteen high school districts and Portland Community College participated in the application, and will benefit from the $810,000 award. Projects and activities range from first-time efforts to revise industrial arts curriculum toward a "Technology Education" approach in some of the smaller districts, to comprehensive program reform projects involving high school and junior high programs aimed at high technology approaches to instruction, new equipment, and programs emphasizing student leadership development in other districts. At PCC four program areas will revise curriculum or create new instructional programs and courses to complement the lead taken by the high school districts' identification of priority programs in manufacturing technology; hospitality, tourism and recreation; health care; and construction technology. Many activities will occur on a regional basis, including an important demonstration project focused on integrating math, English and science with computer-aided drafting; an entrepreneurship pilot effort; and a trade and marketing regional project involving several districts. Other highlights of the Workforce 2000 program include a Business Assistantship program managed for PAVTEC by the Business Education Compact of Washington County that will place 28 high school

and 6 community college vocational instructors and counselors in 3-week experiences with local firms; a region-wide assessment program for special needs and at-risk students; and a special partnership work experience program with the Fred Meyer Corporation.

PAVTEC members can take pride in the accomplishment of winning this major grant from the State Departments of Education and Economic Development. PAVTEC's challenge in 1990 and 1991 is to use these new resources effectively—and efficiently—to continue and expand the work of the past four years.

The 5 Year Revenue Profile

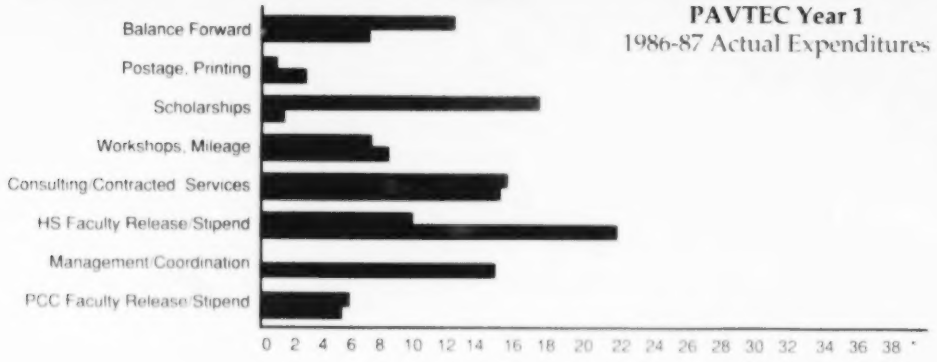
Through 1989-90 funding in actual dollars has relied primarily on Carl Perkins funds made available through the Division of Vocational Technical Education, Oregon Department of Education. Local districts contribute "in kind" match in staff time and other resources which contribute significantly to the success of the articulation process. Beginning April 1, 1990, Workforce 2000 funds totaling $810,000 will provide additional capital to further and expand PAVTEC's mission and impact (through June 30, 1991).

FIVE YEAR REVENUE PROFILE

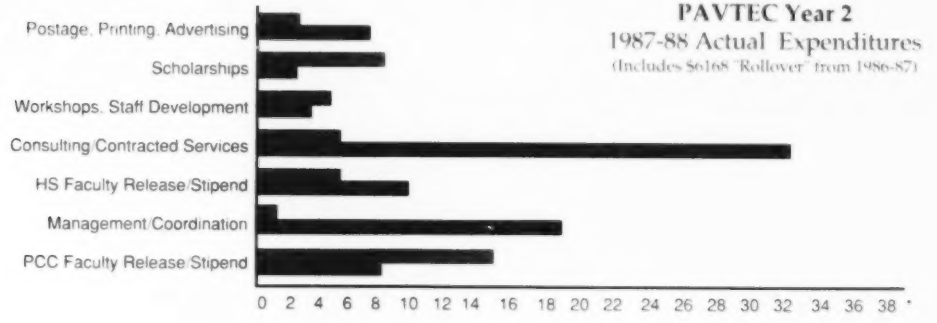
	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92
FEDERAL						
Program Imprvmnt.	76,314	76,314	81,360	90,981	92,855	80,000*
Disadvantaged	50,058	50,058	87,000	0	0	0
Handicapped	20,106	20,106	22,715	0	0	0
STATE (Workforce 2000)						
Voc/Tech 2+2 Prog.	0	0	0	384,583		
Sec. High Tech. Equip.	0	0	0	359,950		
Bus. & Ind. Internships	0	0	0	45,467		
Stu. Leadership Dev.	0	0	0	20,000		
LOCAL						
District Support	Match	Match	Match	Match	Match	

*Estimated

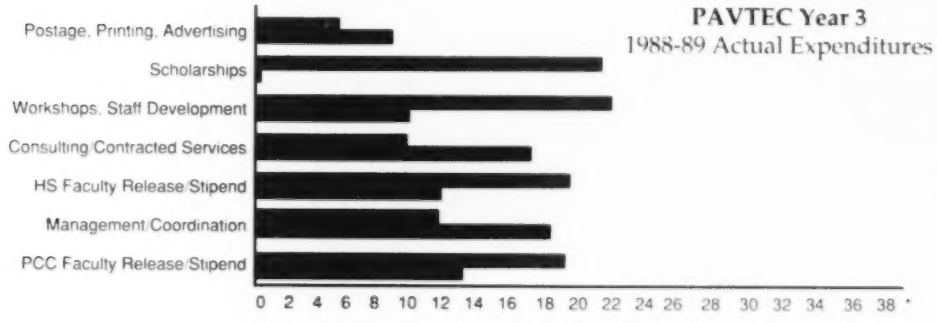
Expenditures and Budgets—1986-1991


Balance Forward
Postage, Printing
Scholarships
Workshops, Mileage
Consulting/Contracted Services
HS Faculty Release/Stipend
Management/Coordination
PCC Faculty Release/Stipend
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 *

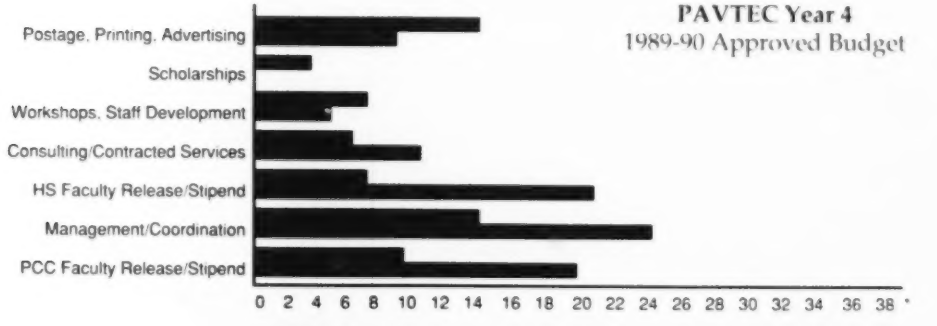
PAVTEC Year 1
1986-87 Actual Expenditures


Postage, Printing, Advertising
Scholarships
Workshops, Staff Development
Consulting/Contracted Services
HS Faculty Release/Stipend
Management/Coordination
PCC Faculty Release/Stipend
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 *

PAVTEC Year 2
1987-88 Actual Expenditures
(Includes $6168 "Rollover" from 1986-87)


Postage, Printing, Advertising
Scholarships
Workshops, Staff Development
Consulting/Contracted Services
HS Faculty Release/Stipend
Management/Coordination
PCC Faculty Release/Stipend
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 *

PAVTEC Year 3
1988-89 Actual Expenditures

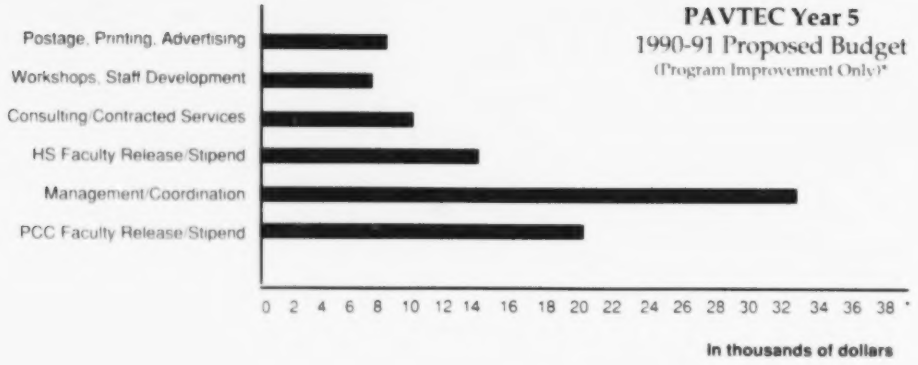

Postage, Printing, Advertising
Scholarships
Workshops, Staff Development
Consulting/Contracted Services
HS Faculty Release/Stipend
Management/Coordination
PCC Faculty Release/Stipend
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 *

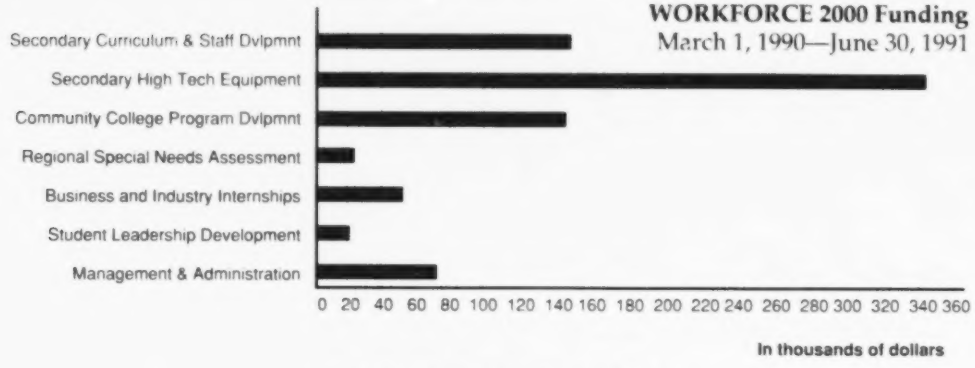
PAVTEC Year 4
1989-90 Approved Budget

Disadvantaged and Handicapped**
Program Improvement

***In thousands of dollars**
****Funds for year 4 rolled forward from year 3 availability**

Expenditures and Budgets—1986-1991 continued


PAVTEC Year 5
1990-91 Proposed Budget
(Program Improvement Only)*
Postage, Printing, Advertising
Workshops, Staff Development
Consulting/Contracted Services
HS Faculty Release/Stipend
Management/Coordination
PCC Faculty Release/Stipend
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38
In thousands of dollars


WORKFORCE 2000 Funding
March 1, 1990—June 30, 1991
Secondary Curriculum & Staff Dvlpmnt
Secondary High Tech Equipment
Community College Program Dvlpmnt
Regional Special Needs Assessment
Business and Industry Internships
Student Leadership Development
Management & Administration
0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300 320 340 360
In thousands of dollars

***Carl Perkins funds to Disadvantaged and Handicapped Categories were discontinued**

Results

Priorities of the three-year plan, coupled with the massive effort in applying for and receiving Workforce 2000 funds, have brought closer unity and a stronger direction of purpose to PAVTEC. At the same time, the commitment of time among consortium members somehow continues to increase, even though they are very busy with their "other jobs."

The following section highlights activities for this past year. The organizational approach used by the consortium lays out the structure for the reports. The Special Needs Task Force and consortium subcommittees outline the activities and results of each committee.

Program Management and Organization

The organizational structure continues to contribute to the success of PAVTEC. Subcommittees, including members of participating districts, address and implement the provisions of the three-year plan.

This year, the Steering Committee dedicated time at the biweekly meetings to prepare the proposal for the Workforce 2000 funds. The Steering Committee worked with PAVTEC consultants Dr. Dan Dunham and Dr. Joe Barnhart of the Oregon Alliance on this project. In addition, the committee continues to hold monthly meetings to plan, review and discuss issues to forward to the Consortium Representatives Council, which meets monthly.

The Special Needs Task Force continues to provide sharp focus on the disabled and disadvantaged as well as at-risk student populations as a strong component of the PAVTEC organizational structure.

Governance of PAVTEC is continually under refinement, and some restructuring will take place to accommodate the increased scope of work made possible by Workforce 2000 funds, as well as continuing to expand to include members of the business community and the private sector.

ORGANIZATIONAL STRUCTURE

Boards
School Districts/Community College

Executive Council
Superintendents/President

Steering Committee - - - - - - - - - - - -

Consortium Representative Council
Program Improvement/Disadvantaged/Handicapped

Consortium Subcommittees

Special Needs Task Force

PAVTEC Special Needs Task Force—Sherry Robinson

Throughout 1989-90, the Special Needs Task Force has continued to actively campaign to assure equal access to programs and services for students with special needs. In 1986 four major goals were identified which were seen as necessary to successfully articulate students who are disabled, disadvantaged or limited in English proficiency from high school to the community college. These goals included:

1) Identifying programs and staff involved in providing services to special needs students.

2) Establishing a network for information, referral and a communication system between the high schools and the community college.

3) Providing the system for Vocational and Special Educators to assist in identifying students needing special assistance.

4) Building the procedure to allow access to the articulation process for this population.

Through regular monthly meetings, workshops and seminars, three of these goals have been accomplished. The fourth, working through the articulation process, remains a goal to be achieved.

This year, 1989-90, the third update and printing of a very complete Special Needs Directory was accomplished, which responds directly to the first goal. The Transition Form, developed and printed in 88-89, has been disseminated and is being implemented this year. This form "transmits" information from the high school to the community college (on students needing special assistance), answering goal number 2. In addition to this form, Portland Community College's Admissions Office has continued Transition Fairs on three campuses in order to introduce students to programs and services available. These "Fairs" provide a unique opportunity for students and staff to become better acquainted in a positive manner.

The special Orientation for Limited English Speaking students, begun in 1988, was offered a second time in June, 1989, and will be offered again in June this year. Modifications have been made to enrich this experience and the numbers in attendance have increased from 7 the first year to 40 this year. This year the program will be offered to all of Region IX, and seven staff members (6 from PCC and 1 from Portland Public Schools) will support the five-day program.

The Quick Reference Advising Guide, for Portland Community College Career/Technical programs, will be completed and available for use by high school counselors in early Spring and should provide a helpful tool in assisting students to prepare for transfer to the community college. This guide provides information related to entry-level requirements, basic skills necessary to succeed, and other pertinent information about each Career/Technical program at PCC.

The Task Force, as a result of a survey done in October of 1989, is presenting an awareness workshop on Cultural Diversity in the classroom. This workshop was specifically designed for Career/Technical faculty at both the high school and the community college. In addition to this workshop, a 10 minute video will be completed in June which addresses the identification of students with special needs and the barriers present in the classroom, which restrict the students' access, participation and success in vocational programs.

Due to the subject matter of the video, and its brevity, it is anticipated there will be widespread use in the high school and the community college for in-service and Staff Development. Workbooks will be developed to accompany this presentation which will provide solutions/suggestions to the barriers.

Challenges remain in the area of resources, fiscal and human, as well as in the area of tolerance and acceptance for diversity.

Demonstration Project Subcommittee—Robert Hammann

Real progress in articulation is being made between the academic and drafting departments at Portland Community College and Benson High School.

The PAVTEC Demonstration Project Committee spent most of its working time last fall preparing its part of the Workforce 2000 proposal. The proposal was approved and the Demonstration Project will receive $30,455 from the grant, which will be matched by Benson and PCC. The funds will be used to help meet the project mission and goals and to carry out specific activities designed by the subcommittee.

In early March, 1990, project participants from Benson and PCC met to discuss the award, and to review the progress in articulation between Benson and PCC.

Benson has articulated English with drafting at the freshman level. Project leaders are developing articulation for the sophomore level. At the junior level, a technical writing unit is already in place. PCC is working on developing similar projects between English and drafting, and plans to expand the articulation program to include math and science in the future.

The subcommittee will work in four groups to deal with the following areas:

- Funding levels for the continued articulation between math and English at Benson High.
- Developing a senior project at Benson High.
- Aligning 2 + 2 between PCC and Benson in the math, science, English, and drafting areas.
- Developing proposals to expand the articulation to the math and science departments at Benson.
- Developing articulation between math, science, English, and drafting departments at PCC.

These groups will provide proposals to the demonstration project committee to assist in the development of future project activities.

Originally conceived as a demonstration of "institutionalizing 2 + 2," the project has matured and emerged as a comprehensive process model for integrating academic and vocational instruction at both the high school and community college levels. With a key group of teachers, counselors and administrators from Benson and PCC involved and committed to developing and testing a useful approach of the highest quality, the Demonstration Project is expected to produce results and strategies that can by used by schools throughout the region.

Program Continuance/Improvement—Dolores Turville

The Program Continuance/Improvement Committee has established as one of its high priorities the goal of assisting all PAVTEC districts in managing the essential planning, reporting, and related requirements of articulation agreements. A key objective is to establish a central PAVTEC coordinator at each high school to maintain essential PAVTEC materials and records.

A letter to each high school principal requested the name of a vocational instructor or counselor to serve as the high school building coordinator. The high school principals' response to this letter was excellent, and the first step in establishing a PAVTEC high school building plan has been accomplished.

A PAVTEC resource manual or handbook will be developed for distribution to high school building coordinators in early Fall 1990. This handbook will include sample letters of agreement, policies and procedures, PCC vocational program information, and Special Needs Directory and information.

A second high priority goal is to expand articulated programs using mini-grants. The high school PAVTEC Consortium Representatives were surveyed to determine program articulation interests. Currently, articulation is being expanded in these program areas:

- Agriculture
- Drafting
- Automotive Service Technology
- Early Childhood Education
- Diesel Service Technology

New articulation is developing through mini-grant efforts in Building Construction Technology involving 14 high schools in the following districts: Beaverton, Forest Grove, Hillsboro, Lake Oswego, Portland Public Schools, Scappoose, Sherwood, St. Helens, and Tigard.

Leaders from the Associated General Contractors and the Oregon Bureau of Labor and Industries participated in an articulation meeting for high school and community college instructors at the Rock Creek Campus in February. Partnerships are being formed with high schools, community college, and business and industry.

Expanded articulation projects have been requested in the following program areas:

- Accounting
- Health Occupations
- Business/Office Technology
- Marketing
- Culinary Arts
- Medical Terminology
- Electronics

New articulation projects have been requested in the following program areas:

- Commercial Art
- Hospitality
- Computer Information Systems
- Photography
- Software Engineering Technology

As high school and PCC faculty representatives meet for the annual review of letters of agreement, new courses for articulation will be considered and agreements will be updated. Articulation procedures for students will be refined, curriculum will be aligned, competencies will be discussed, and opportunities for Special Needs students will be identified. A matrix for each high school (listing programs, course credits, faculty and administrative representatives, and evaluation sites) is available.

The goal to ensure program recognition and inclusion of basic skills necessary for success in articulated programs was addressed at a PAVTEC Math/Vocational Articulation Meeting on May 16, 1989. Two math teachers and two vocational teachers from each high school were invited to participate in addition to PCC math and vocational instructors. Nearly 50 educators from 9 districts and 11 high schools attended a successful math/vocational articulation meeting which resulted in an outline of projects for the future.

PAVTEC is assisting the Lake Oswego School District with a review and assessment of vocational education conducted by the Oregon Alliance. Results expected from the vocational education review include a mission statement, goal-driven long-range plan, specification of resource needs, an outline for curriculum revision, and action-oriented strategic plan. This project will lead to a vocational improvement plan with articulation opportunities.

2+2 Tech Prep Program and the 2+2+2 Model—David Hata

The 2+2+2 Tech Prep Model Program in Electronic Engineering Technology links PCC's associate degree program to both high school electronics cluster and to Oregon Institute of Technology's upper-division programs in electronic engineering technology, computer engineering technology, and industrial management. Major components of the project included the development of a model curriculum and its implementation in a variety of high school settings, faculty development through a series of one-day workshops, and dissemination activities that included conference presentations and on-site consultancies.

In 1989 over sixteen high school students earned PCC credit for first-term EET classes. These classes included EET 111 Electronic Circuits and Devices I and EET 112 Digital Systems I. Both are four-credit classes.

Dissemination activities have included presentations at the 1989 Engineering Technology Leadership Institute and the Annual Conference of the American Society for Engineering Education. One consultancy visit was also made to Delgado Community College in New Orleans, Louisiana.

A PAVTEC mini-grant has funded two one-day inservice workshops for high school instructors who are participants on PAVTEC letters of agreement in Electronic Engineering Technology. The high school teachers will upgrade their skills in software areas as well as in digital circuit systems.

The three-year project funded by the Fund for the Improvement for Post-Secondary Education ended in August of 1989. A follow-up dissemination grant was funded for 1989-90. Activities to be funded under the dissemination grant include an exhibit at the 1990 AACJC Conference to be held in April, 1990. PAVTEC will participate at the AACJC exhibit.

Staff Development Subcommittee—Ron Munkres

The purpose of the Staff Development Subcommittee was to organize and implement in-services, workshops, and training for high school and PCC instructors for professional and technical growth. The following highlight accomplishments and planned activities through summer 1990:

Winter Term
- Upgrade training for electronics 2+2 teachers with PCC Electronics Engineering Technology

Spring Term
- Upgrade training for electronics 2+2 teachers with PCC Electronic Engineering Technology
- International Trade and Marketing Workshop
- Electronic Technology Teleconference
- Cooperative Learning Training through Washington County Education Service District
- AGC Construction Skills Workshop

Summer Term
- Technology Education course offered through Hillsboro School District
- Technology Education course offered through Portland Public Schools and Oregon Department of Education
- Principles of Technology training session
- Summer Assistantship offered in cooperation with Business Education Compact of Washington County

Forecasting and Advising Subcommittee—Al Miller

The PAVTEC 2+2 Tech Prep Guide Planner has recently been updated and is available on computer disk to all high schools in Region IX. Five districts—Hillsboro, Newberg, Scappoose, St. Helens, and Sherwood—have adopted the Guide or are using the Planner.

The Planner contains the Portland Community College associate degree requirements in each occupational field. Also included is the latest information on wages and employment opportunities, compiled from the Oregon Career Information System. Local high school information can be added for printing and distribution. Counselors and teachers can also use the new edition as is for individual student advising.

The Planner is available in four versions: hard copy booklet; unformatted on disk; formatted on PageMaker; and formatted on PageMaker, condensed version.

Marketing And Communications Subcommittee—Nancy Cross

The Marketing and Communications Subcommittee has worked to make people aware of PAVTEC and the 2+2 program. Brochures and posters were printed and distributed to all high schools and were considered a visual success. Major marketing strategies included the Principal's breakfast, the Counselor breakfast meetings, and the Superintendent's/ President's lunch. A plan is in place to include a one-page flyer for addition in every principal's newsletter and to redesign a tri-fold brochure for students. In the future, a competition will be held for a new logo or slogan. Area high school art, design or graphic classes will be asked for ideas.

New Avenues For Articulation & Partnerships Subcommittee—Larry McClure

Several PAVTEC members, including board members and college and high school teachers and administrators, have participated for the past two years in the Northwest Futures Group for Work Relevant Education.

A futures oriented model for schooling has emerged from that process, parts of which may be implemented in one or more PAVTEC schools over the next two to four years. Based on ten essential components which require integration of academic and vocational disciplines and emphasize basics, the model focuses on extensive private sector involvement in schooling, articulation between educational levels kindergarten through grade 14, and instruction in essential learning and workplace skills.

The forging of new partnerships between business, industry, labor, government, and education will continue as a top priority of the subcommittee during 1990-91. The subcommittee will continue to gather information from other inventive and innovative articulation programs across the country.

Strategic Planning—PAVTEC Steering Committee

The Consortium Representative Council met in May, 1989 to review and modify goals and determine priorities for 1989-1990. Another strategic planning meeting is scheduled for May, 1990. The committee will study the impact of resources made available by the Workforce 2000 grant and will prepare a strategic plan of action to best utilize those funds and to continue the Regional Cooperative Vocational Technical (RCVT) effort supported by federal and local funds.

Student Tracking—PAVTEC Steering Committee

The follow-up process, designed last year, continues to be refined. The data resulting from this process is expected to provide additional measurable information about the impact of the PAVTEC enterprise.

Impact Evaluation Summary: Regional Cooperative Vocational Technical Education and 2 + 2 Programs

The impact evaluation, conducted by a team from the Oregon Alliance for Program Improvement at Oregon State University, as submitted to the Oregon Department of Education Division of Vocational-Technical Education in the fall of 1989, highlighted the following accomplishments:

- The majority of those involved understand the differences between 2 + 2 and articulated programs.
- The value of teacher to teacher contact and cooperation is recognized.
- The broad scope of operations; sizeable numbers of schools, districts and people are involved.
- Board of directors' high level of interest and support—especially Portland Community College representatives.
- Better understanding at all levels of what others are doing. Understanding carries to superintendents, principals, teachers and counselors.
- The four regional coordinators for Washington, East Multnomah and Clackamas counties and Portland work together more closely than they did before the initiation of RCVT.
- Major strides have been made in all areas of special needs including teacher involvement; student identification and support; transition; local district actions and increased support; increase in the number of disadvantaged and handicapped students involved each year.
- Excellent program management, leadership and steering committee.
- Top quality documentation, accounting, reporting and communication.
- Long range strategic planning produced significant results in programming and number of staff/faculty and students involved.
- Good leveraging effects from federal dollars and strong indication that the effort will last.
- PAVTEC spurred new interest in vocational education programs.
- Good public relations and marketing efforts.
- Mini-proposal process encourages broad participation.
- Community college image has improved both in the minds of high school faculty and students.
- Basic skills integration used in several new projects.
- Good counselor participation and enthusiasm.
- Highly qualified and competent leadership provided by Don Johnson, PAVTEC Chair; Sherry Robinson, Special Needs Task Force Chair; and the skilled and committed members of the consortium committees.
- Key superordinate decision-makers actively demonstrated involvement and staunch support for the RCVT and 2 + 2 program implementation.

Student Participation

The addition of the 1988-89 column indicates a high percentage of increased participation by students in articulated courses. For example, in 1988-89, 315 students earned a total of 2,580 community college credits in 758 courses. The courses are recorded on an official Portland Community College transcript as they are earned and become part of the student's record. Articulated agreements allow the credit to substitute for specific course requirements of the college.

ARTICULATION CREDIT AWARDS SUMMARY

Participation	1986-87	1987-88	1988-89	% increase 87-88 to 88-89
Districts	9	10	12	20
High Schools	12	20	24	20
Programs	6	7	15	114
Courses*	—	—	45	—
Students	81	147	315	114
Grades Issued	131	262	758	189
Credits earned	315	783	2,580	230
Credit value (PCC)	$7,402	$18,401	$60,630	230

*Different courses involved (added 1988-89)

District Participation

Letters of agreement between the high school district and the community college formalize the articulation process. Specific courses which have been articulated at the high school and community college as well as faculty representatives who are responsible for content and evaluation are identified in the agreement. Such agreements are then signed by officials of the district. The following is a summary of letters of agreement, which represent 19 program areas.

HIGH SCHOOL/COMMUNITY COLLEGE LETTERS OF AGREEMENT
by Program Area

Program Area	District(s)	High School(s)
Accounting	1	1
Agriculture	3	3
Auto Body Technology	1	1
Automotive Service Technology	5	13
Aviation Maintenance Technology	1	1
Business/Office	12	24
Culinary Arts	1	1
Diesel Service Technology	2	2
Drafting Technology	8	18
Early Childhood Education	3	8
Electronic Engineering Technology	3	6
Graphics	2	4
Industrial Occupations	1	1
Landscape Technology	1	1
Machine Technology	3	9
Marketing	1	1
Mathematics	13	27
Medical Terminology	2	2
Welding Technology	9	15

Results continued

In 1989-90, 13 high school districts continue to participate in specific program areas in which they are interested. Following is a listing by districts.

HIGH SCHOOL/COMMUNITY COLLEGE
LETTERS OF AGREEMENT
by Districts

District	Agreements
Banks	6
Beaverton	4
Forest Grove	7
Gaston	2
Hillsboro	9
Lake Oswego	2
Newberg	4
Portland	15
St. Helens	7
Scappoose	4
Sherwood	2
Tigard	5
Vernonia	2

Three-Year Plan

The Three-Year Plan was updated and extended through 1992 at the May, 1989 strategic planning workshop. Two years' activities have now been completed under this strategic planning approach. The 1991-93 version, which will result from a workshop in May 1990, will incorporate appropriate aspects of the Workforce 2000 programs.

THREE-YEAR PLAN
1990-1991-1992

I	Demonstration Project
II	Program Continuance and Improvement
III	Staff Development
IV	Incentives for Articulation
V	Strategic Planning for Articulation
VI	Program Forecasting and Advising
VII	Student Tracking and Follow-up
VIII	Marketing and Communication
IX	New Avenues for Articulation and Partnerships
X	PAVTEC Management and Organization
XI	Evaluation and Reporting
XII	Institutionalizing Articulation

The Assistantship Program

Developed by the Business Education Compact of Washington County and previously available only to Washington county teachers in certain fields, the Assistantship Program has been expanded, through a contract with PAVTEC, to include the vocational-technical occupations. The program will be available in the summer of 1990 to all vocational-technical teachers and counselors in PAVTEC Region IX.

The Compact's Workforce 2000 Committee board of directors endorsed this expansion, made possible by the Workforce 2000 grant.

Funds for three-week internship opportunities in the summer of 1990 will be available for a limited number of people. Eligible to apply are ninth grade through higher education vocational teachers, counselors, and administrators in the Banks, Beaverton, Forest Grove, Gaston, Hillsboro, Lake Oswego, Newberg, Portland, St. Helens, Scappoose, Sherwood, Tigard, and Vernonia school districts, and Portland Community College.

Summary: The First Four Years

The Annual Report provides a picture of accomplishments of the fourth year (1989-90) of the regional effort as well as the opportunity to summarize a few highlights of the four-year experience that has been PAVTEC.

Teaching and Learning

The most important results of the PAVTEC enterprise are those that affect students. Four years of planning, coordinating and cooperating have produced more than 70 articulation agreements in which 19 vocational technical education programs have been articulated between 27 high schools and Portland Community College. Some 543 high school students have benefited directly from those connected programs in earning 3678 community college credits plus the savings to them and their families of over $86,000 in tuition. Special Needs students, too, continue to be served through the connected, articulated programs and their numbers have grown through the four years of PAVTEC operations and service. An important result of that effort will be a portable regional needs assessment program supported under Workforce 2000 funds that will be accessible to special needs students in every district in PAVTEC in 1990-91.

People Participating

If there is a single hallmark of PAVTEC it is represented by the participation of people— students, teachers, counselors, administrators, representatives of business, industry and labor, parents, legislators, volunteers, support staff, people from other councils, committees and commissions, state agencies and many others—in virtually all aspects of the PAVTEC program. More than 150 teachers have been participants in developing the 19 program articulation agreements noted earlier, and even more in teaching courses related to those agreements. Nearly 100 counselors from 27 high schools and the community college have collectively participated over the four years in workshops, cooperative planning, and program assessment. Dozens of faculty and staff have participated in preparing "mini-grant" requests from PAVTEC (17 just since September, 1989 . . . many more since the mini-grant approach was instituted in 1987) with additional colleagues involved in implementing those small grants to improve their programs.

Beyond the school people, community members from the private sector plus labor groups, economic development, state education agency, Business Education Compact of Washington County, state and regional councils, and legislators have advised, counseled and acted on behalf of students and teachers through the opportunity provided by PAVTEC.

Professional development of teachers, counselors and administrators has been a feature of PAVTEC for four years. During the fourth year, the reach and range of topics grew from working on articulation agreements and the curriculum to support those arrangements to a variety of topics—applied math, applied communications, building construction, alternative fuels—to name a few. The immediate future will see workshops on applied academics, integrating basics/academics, technology education, principles of technology, and assistantship positions in business and industry, and more as PAVTEC people prepare themselves to help implement both Workforce 2000 and continuing RCVT efforts.

Informing and Communicating

Promotion of the opportunities of PAVTEC increased during the third and fourth years, when 250 "2+2 Tech Prep" videos were distributed, more than 10,000 2+2 "Your Guide to Success" brochures found their way to students and parents, over 500 promotional posters were placed throughout the region, and dozens of presentations were made by PAVTEC members. Two newsletters were published in 1989-90, and the "2+2 Tech Prep Planner"—based on the popular Guide developed by the Hillsboro District—is now available on computer disc for use by schools throughout the region.

The largest and most effective communication effort of the year was the successful bid developed by PAVTEC for Workforce 2000 funds from the State of Oregon. More than fifty individuals spent untold hours preparing local applications, reviewing proposals, consolidating ideas, establishing priorities, and drafting the total proposal. The Workforce 2000 Committee of the Washington County Business Education Compact, and the Region's several economic development offices, were instrumental in the successful development of this important proposal. An expanded PAVTEC Steering Committee formed the "writing team," and included representatives of apprenticeship, economic development, JTPA, the school districts, college and others. This successful effort exemplifies the capacity of PAVTEC in "Informing and Communicating."

Coordinating and Connecting

The effective management of a consortium requires special leadership talents, ample opportunities for coordination, and positive connections with the partners involved in or affected by the work of the consortium. These characteristics have been present and working for PAVTEC. Outstanding leadership comes from the Steering Committee and Consortium Council. Ample opportunities for coordination are provided through the development of articulation agreements, workshops to revise curriculum and to improve skills of professionals, strategic planning sessions, and an organization of subcommittees and a special needs task force that attend to the detailed work of the Consortium.

Connections have been an essential ingredient in the PAVTEC success story. The addition of new private sector and agency representatives in 1989 created several opportunities for connecting to new, established networks. New ideas, proposal components, new courses and opportunities for teachers have resulted from new connections with the Associated General Contractors, the Economic Development organizations of the region, and the Business Education Compact of Washington County, to name a few.

Future Directions

Ten years from now, Workforce 2000 will be a reality. PAVTEC is in a position for effective participation in the preparation of that workforce, and the consortium will continue to build on the successes—and the learnings from those efforts that were less than successful—of its first four years.

Technology, Trade, Hospitality and Health

These four words may very well become the themes for instructional programs as the decade of the '90s unfolds. For PAVTEC, they are the priorities for the Workforce 2000 program that begins in April, 1990. For the workforce, they represent the future, and to some extent, the present. All data and information about the labor market of the future, the demographics of the population, and the best projections for the economy of the region point to these as the most promising and demanding occupational fields.

Programs for Education and Training

As the education and training providers of the region prepare to respond to the labor market and economic themes suggested above, there will be continuing change in the content of instruction and methods of teaching. High schools and community colleges will be expected to keep pace with the changing workplace and meet the learning needs of an increasingly changing and diverse student body at the same time. New technology-based instruction and teaching approaches will be needed, and curriculum that embraces the basics, connects academics to technical instruction, and provides avenues for those with special learning needs will be essentials in responsive, efficient school systems. Students will need the basic, academic and job skills that will enable them to successfully enter the work force, become highly productive in a short time, and engage in regular continued learning and skill upgrading throughout their working lifetime.

Increased active participation of employers from all sectors of the marketplace will become commonplace, especially if schools and colleges are to remain current with workplace practices. Competency-based instruction, new equipment and teaching materials, and annual workplace experiences for teachers and counselors will be much more common in 1999 than in 1990.

Resources: The Local-State-Federal Partnership

Since the beginning of the Regional Cooperative Vocational Technical effort in 1986, the most promising state-led effort has been the development and enactment of the Workforce 2000 Act of 1989.

This Act completes the Local-State-Federal partnership that other states have found to be absolutely essential if vocational and technical education programs are to have a chance of keeping pace with the demands of the workplace, changing demographics, and the fluctuations of the economy. These new resources (for PAVTEC, a total of $810,000 for the period April 1, 1990 to June 30, 1991) will provide much of the critically needed "capacity building" that schools have desperately needed—new equipment, modern teaching supplies, assessment tools for special needs learners, training and industry-based learning experiences for teachers and counselors, new curriculum materials —if they are to have any hope of providing work-relevant education.

Additional promise for the future is found also in the considerable commitment of local school districts and the community college to continue to match the resources provided by other sources—in this case, matching funds for the Workforce 2000 grants will exceed the amount of the grant—and continuing match support for the Federal funds that come either through PAVTEC, or directly to the schools under formula distribution from the State Department of Education. These resources, added to those from the expected reauthorization of the federal Carl Perkins Act, suggest a promising future for the programs—and the people—of PAVTEC. The challenge is to use the resources well and effectively for the benefit of students. The successful first four years of PAVTEC and unlimited potential suggest that the resources are in good hands.

Consortium Representative Council

Portland Community College

Donald M. Johnson, Associate Vice President, Vocational Technical Education
Sherry Robinson, Associate Dean, Student Development, Rock Creek
Carol Lee Boone, Supervisor, Curriculum , Ross Island
Bob Dixon, Department Chair, Engineering, Sylvania
Don Fiser, Associate Vice President of Enrollment and Marketing, Sylvania
Don McInnis, Executive Dean, Cascade
Bob Palmer, Dean of Student Development, Sylvania
Dolores Turville, Faculty, Rock Creek
Don Uppendahl, Associate Dean, Sylvania
Betty Duvall, Executive Dean, Rock Creek
Paul Williams, Executive Dean, Sylvania
Jim Van Dyke, Vice President of Educational Services

Associate Members

Ron Anderson, Director, Training Services, Associated General Contractors (AGC)
Peter Bluett, Marketing Representative, International Business Machines, (IBM)
Larry McClure, Director of Education and Work Program, Northwest Regional Educational Laboratory
Dan Dunham, Executive Director, Oregon Alliance for Program Improvement
Joe Barnhart, Program Improvement Specialist, Oregon Alliance for Program Improvement
Jeff Triplett, Associate Director, Oregon Bureau of Labor and Industries
Darrell Ward, Assistant Superintendent, Division of Vocational Education, Oregon Dept. of Education
Colleen Mileham, Home Economics Specialist, Oregon Dept. of Education
Michael Hartman, Associate Director of Metro Campus, Oregon Institute of Technology
Chuck Forster, Vice Pres. Operations, The Private Industry Council
Linda Huddle, Youth Program Coor., The Private Industry Council
Cora Smith, Member, State Advisory Council Career and Vocational Education
Ron Munkres, Regional Vocational Technical Coordinator, Washington County ESD

Steering Committee

Chair: Donald M. Johnson, Associate Vice President, Vocational Technical Education, Portland Community College
Nancy Cross, Assistant to Principal, Tigard High School
Dan Dunham, Executive Director, Oregon Alliance for Program Improvement
Chuck Forster, Vice Pres. Operations, The Private Industry Council
Bob Hammann, Principal, Scappoose
Linda Huddle, Youth Program Coord., The Private Industry Council
Larry McClure, Director of Education and Work Program, Northwest Regional Education Laboratory
Colleen Mileham, Home Economics Specialist, Oregon Dept. of Education
Alan J. Miller, Director of Career/Vocational and Community Education, Hillsboro High School District
Ron Munkres, Regional Vocational Technical Coordinator, Washington County Education Service District
Warren Rathbun, Supervisor of Career and Vocational Education, Portland Public Schools
Sherry Robinson, Assoc. Dean, Student Development, Portland Community College
Peggy Smith, Beaverton School District
Jeff Triplett, Associate Director, Oregon Bureau of Labor and Industries
Dolores Turville, Instructor/Business Technology, Portland Community College
Darrell Ward, Assistant Superintendent, Division of Vocational Education, Oregon Department of Education

[Plus Chairs of subcommittees and Associate Members]

High School Districts

Banks
Gene Harp, Principal

Beaverton
Peggy Smith, Beaverton School District
Rick Miller, Vice Principal, Aloha
Dan Meddock, Chair, Counseling, Aloha
Barbara Kokich, Vice Principal, Beaverton

Forest Grove
Don McGinnis, Director of Instruction
Ginger Arnold, Vocational Education Coordinator

Gaston
Gerry Hodges, Administrative Assistant

Hillsboro
Alan J. Miller, Director of Career/Vocational and Community Education, Hillsboro School District
Ralph Staley, Counselor, Glencoe

Lake Oswego
Tom Lindersmith, Director of Administrative Services

Newberg
Jerry Kerns, Vice Principal

Portland
Paul Benninghoff, Director, Career & Vocational Education
Warren Rathbun, Supervisor of Career and Vocational Education
Ken Kline, Industrial/Technology Specialist

St. Helens
Robert Kunders, Principal
Pat Fery, Director of Guidance

Scappoose
Bob Hammann, Principal

Sherwood
Louise Knoll, District Curriculum Coordinator

Tigard
Nancy Cross, Assistant to Principal

Vernonia
Ellis Mason, Superintendent

Washington County ESD
Ron Munkres, Regional Vocational Technical Coordinator

Special Needs Task Force

Chair: Sherry Robinson, Assoc. Dean, Student Development, Portland Community College

Gert Bernstein, Advisor/Vocational Education, Portland Community College

Carol Lee Boone, Resource/Curriculum Supervisor, Portland Community College

Robin Jacobs, Rehabilitation Guidance Counselor/HSSO, Portland Community College

Donald M. Johnson, Associate Vice President/Vocational Education, Portland Community College

Melinda Portlock, Coop Education Specialist, Portland Community College

Marilyn Marshall, Instructor/ Alternative Learning Center, Portland Community College

Linda Skaug, Instructor/Dev. Ed., Coordinator, Special Needs, Portland Community College

Dolores Turville, Instructor/Business Technology, Portland Community College

Dan Dunham, Executive Director, Oregon Alliance For Program Improvement, OSU

Barbara Moon, Associate Director, Office of Continuing Higher Education, Oregon State University

Nita Crimins, Oregon State Department of Education, Division of Vocational Education

Ralph Yoshimura, Oregon State Department of Education, Division of Vocational Education

Marli Perry, Principal, McBride School, St. Helens

Geri Deady, Instructor/Resource Room, St. Helens High School

Barbara Bengel, Director of Special Services, Tigard High School

Sue McGee, Vocational Coordinator/Special Education, Tigard High School

Duane Mueller, Instructor of Vocational Education, Forest Grove High School

Shirley Beck, Vocational Assessment Specialist, Portland Public Schools

Robert Crebs, Supervisor/Vocational Education Special Education, Portland Public Schools

Ken Kline, Industrial/Technology Specialist, Portland Public Schools

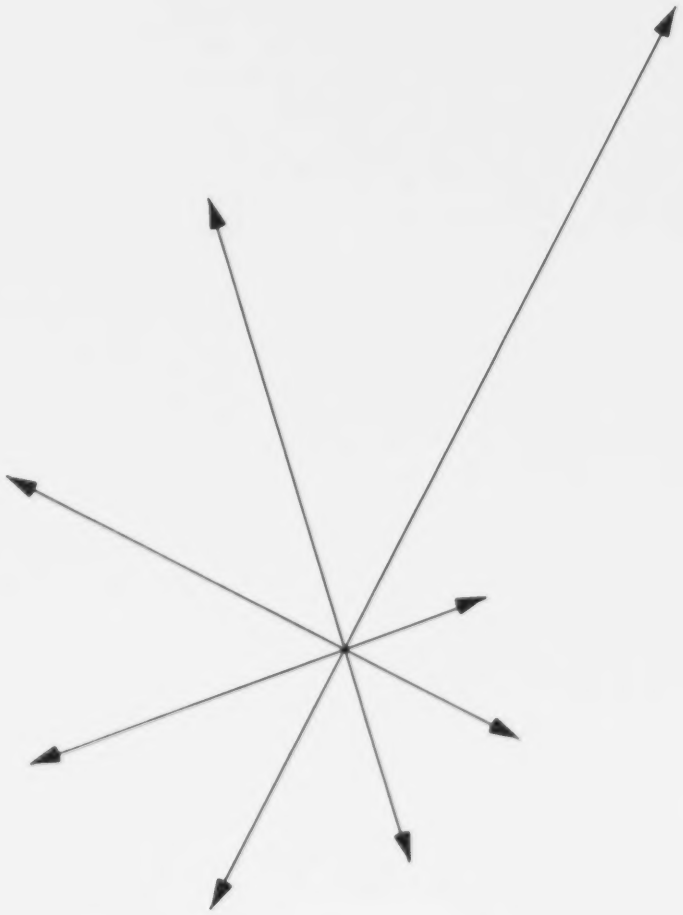
Mary Ella Kuster,Teacher/Coordinator, ESL-Bilingual, Madison High School

Marcia Benedict, Instructor/Counselor, Hillsboro High School

Joseph LaRoy, Instructor/Special Education, Scappoose School District

Nancie Mann, Vocational Coordinator, Special Needs, Lake Oswego School District

Ron Munkres, Regional Vocational Technical Coordinator, Washington County Educational Service District



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